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02/06/2009

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EXAMINER

FISCHER, JUSTIN R

ART UNIT

PAPER NUMBER

1791

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |  |  |
|------------------------------|--------------------------------------|--|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/534,545 | <b>Applicant(s)</b><br>GALIMBERTI ET AL. |  |
|                              | <b>Examiner</b><br>Justin R. Fischer | <b>Art Unit</b><br>1791                  |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 January 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 51-73, 76-85, 88-97 and 100-103 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 51-73, 76-85, 88-97 and 100-103 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 27, 2009 has been entered.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 51-62, 65-67, 72, 73, 76-79, 81, 82, 84, 85, 88-91, 93, 94, 96, 97, 100-103 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weber (US 4,602,052) and further in view of Chauvin (US 6,982,050) and Lucas (US 5,681,874).

Weber is directed to a diene based rubber composition having carbon black and further including a quaternary ammonium salt (Abstract and Column 3, Lines 30-50). While the reference fails to expressly describe a tire incorporating the above noted composition, one of ordinary skill in the art at the time of the invention would have readily appreciated such a construction in view of the general disclosure of Weber. In particular, Weber is directed to the improvement of carbon-black filled, natural rubber

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compositions, which are one of the most commonly used, if not the most commonly used, rubber composition in the tire industry- a fair reading of Weber would have suggested a tire construction having the above noted composition.

As to the type of quaternary ammonium salt, Weber teaches the use of any quaternary ammonium salt (Column 4, Lines 20+). More particularly, Weber incorporates US 3,686,113 by reference and suggests the use of ammonium salts listed between Column 5, Lines 11 - Column 7, Line 75. Among the salts listed in US '113 are those that satisfy the structure of the claimed invention (Column 6, Lines 15-30). Thus, Weber expressly teaches the use of the claimed ammonium salt (essentially a grocery list of compounds included within Weber).

With further respect to Weber, the reference describes a composition that contains, among other things, a reinforcing filler "consisting essentially" of particulate carbon black. The reference further teaches that up to 200 phr of carbon black can be included in the rubber composition. A fair reading of this language does not suggest a reinforcing filler that only includes carbon black- the language "consisting essentially of" only limits the scope of a claim to materials that do not materially affect the basic and novel characteristics of the claimed invention (MPEP 2111.03). In this instance, the basic and novel characteristics of the claimed invention pertain to the introduction of a quaternary ammonium salt to increase the amount of crosslinking and ultimately increase the modulus (Column 4, Lines 9+). One of ordinary skill in the art at the time of the invention would have found it obvious to include silica in the composition of Weber since tire rubber compositions are conventionally described as including carbon black

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and/or silica to obtain an optimized reinforcement assembly, as shown for example by Chauvin (Column 4, Lines 19+) and furthermore, the language of Weber suggests the inclusion of additional components that do not materially affect the basic and novel characteristics of the claimed invention (ammonium salt in combination with carbon black). Lastly, Lucas evidences the known inclusion of silica coupling agents in order to provide a strong connection between the filler (silica) and the base rubber composition, as shown for example by Lucas (Abstract and Column 2, Lines 35-50). In essence, the silica coupling agent functions as a bridge between the silica and the base rubber composition since they generally have low compatibility.

Regarding claim 52, the claim discloses structural elements define the fundamental structure of modern day tire constructions. Furthermore, one of ordinary skill in the art at the time of the invention would have found it obvious to use the composition of Weber in any of the fundamental tire components, including the tread. Lastly, the tread is well recognized as being formed of a carbon black-filled, natural rubber composition.

With respect to claims 53, 54, 77, 78, 89, and 90, the tire composition of Weber is not expressly described as including secondary accelerators or DPG.

As to claim 55, the anion disclosed in the ammonium salt of US '113 is a chloride ion.

Regarding claim 56, the claim is only relevant when the ammonium salt has the form of equation (III).

With respect to claim 57, US '113 teaches that the moieties have between 1 and 36 carbon atoms.

Regarding claims 58-60, US '1113 broadly teaches the structure of the ammonium salt (in regards to the moieties). Weber, on the other hand, clearly recognizes the claimed combinations as being consistent with those commonly used in quaternary ammonium salts (Column 6, Lines 55+). Absent any conclusive showing of unexpected results, one of ordinary skill in the art at the time of the invention would have found it obvious to form any of the claimed combinations (N atom and hydrocarbon radical, whether it is straight chained or a ring). It is emphasized that there a plurality of potential combinations, as evidenced by the plurality of claimed combinations, and applicant has not provided a conclusive showing of unexpected results.

Regarding claims 61, 62, 79, and 91, the rubber composition of Weber comprises less than 15 phr of an ammonium salt (Column 3, Lines 10-20).

With respect to claims 65, 66, 81, and 93, the rubber composition of Weber is formed entirely of natural rubber or as a mixture comprising at least %5 natural rubber and additional rubbers, such as polybutadiene or synthetic polyisoprene (Column 3, Lines 30-50). While the reference fails to specifically include an EPR or an EPDM, such rubbers represent well known and conventional rubbers that are extensively used in tire rubber components. It is emphasized that Weber does suggest a rubber composition formed as a mixture of natural rubber and additional rubbers, as is conventional in the tire industry- the particular selection of any well known rubber would have been well

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within the purview of one of ordinary skill in the art at the time of the invention. Lastly, it is noted that polybutadiene and synthetic polyisoprene are exemplary in the disclosure of Weber.

Regarding claims 67, 82, and 94, Weber (Column 8, Line 10) suggests the use of “suitable accelerators commonly used in the art”- such a disclosure is recognized as including primary accelerators.

As to claims 72, 84, 96, and 101-103, the claimed ranges are consistent with conventional filler loadings in tire rubber compositions.

Regarding claims 73, 85, and 97, the composition of Weber includes carbon black.

4. Claims 63, 64, 80, and 92 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weber, Chauvin, and Lucas as applied in claim 51 above and further in view of Yamaguchi (US 6,550,508). As detailed above, Weber is directed to carbon-black filled rubber composition formed entirely of natural rubber or of a mixture having at least 5% of natural rubber (Column 3, Lines 30-50). While Weber fails to expressly list the glass transition temperatures of natural rubber and the additionally mentioned diene-based rubbers, the claimed value below 20 degrees Celsius is consistent with the commonly used diene-based rubbers, as shown for example by Yamaguchi (Column 6, Lines 45-60).

5. Claims 68-71, 83, and 95 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weber, Chauvin, and Lucas as applied in claim 51 above and further in view of Vasseur (US 7,199,175). As detailed above, Weber suggests a rubber

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composition comprising “any suitable accelerator commonly used in the art”. Although the reference fails to expressly identify specific types of accelerators, the claimed accelerators represent the well known and commonly used accelerators in the tire industry, as shown for example by Vasseur (Column 14, Lines 45-55). One of ordinary skill in the art at the time of the invention would have found it obvious to include any of the known accelerators in the rubber composition of Weber.

### ***Response to Amendment***

6. The declaration under 37 CFR 1.132 filed January 27, 2009 is insufficient to overcome the rejection of claims 51-73, 76-85, 88-97, and 100-103 based upon Weber as set forth in the last Office action because: the claimed ammonium salt is expressly disclosed by Weber since Burke is incorporated by reference- in essence, Weber anticipates the claimed invention with respect to a rubber composition comprising the claimed quaternary ammonium salt and it is well recognized that unexpected results cannot overcome such an anticipatory rejection.

### ***Response to Arguments***

7. Applicant's arguments filed January 27, 2009 have been fully considered but they are not persuasive.

Applicant's arguments are primarily directed to the above mentioned declaration. It is emphasized that Weber anticipates the claimed invention with respect to a quaternary ammonium salt having two nitrogen atoms and only one of which is positively charged. As detailed above, Weber specifically incorporates the ammonium salts of Burke by reference, which includes the claimed ammonium salt. In this



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instance, it is as if the primary reference (Weber) includes an express disclosure of the claimed ammonium salt, among other ammonium salts- thus, it is not required to pick and choose a specific ammonium salt since Weber (primary reference) expressly teaches rubber compositions having the claimed ammonium salt and rubber compositions having ammonium salts non satisfying the claimed formula.

Lastly, it is noted that even if it was determined that Weber fails to anticipate a composition having the claimed ammonium salt, Table A does not provide a conclusive showing of unexpected results for the general inclusion of the claimed ammonium salt. More particularly, Table A only provides a comparison of ammonium salts at a loading of 2.8 phr and it is unclear if any realized benefits would be similarly obtained at higher loadings. For instance, there is no evidence that any realized benefits would be observed at loadings of 5 phr or 10 phr and the independent claim as currently drafted simply requires the general inclusion of a specific ammonium salt. Also, it is noted that several properties of Comparative Example 10 (e.g. stress at break, elongation at break, abrasion) are better than the corresponding properties of Inventive Examples 7 and 8.

### ***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Justin R. Fischer** whose telephone number is **(571) 272-1215**. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Justin Fischer  
/Justin R Fischer/  
Primary Examiner, Art Unit 1791  
February 3, 2009